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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,565	10/19/1999	NICHOLAS G. DUFFIELD	113605	2979

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EXAMINER
HO, CHUONG T

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 09/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/420,565	Applicant(s) Nicholas G. Duffield et al.
	Examiner Ho	Art Unit 2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-39* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al. (U.S.Patent No.5,953,338).

In the claim 1, see figure 2, Ma et al. discloses precesses of monitoring a utilization level of a grouping of a virtual path on a physical interface comprises checking the utilization level of the virtual path, updating an amount of available bandwidth for the virtual path, and comparing the amount of available bandwidth with a maximum threshold for the available bandwidth and

setting an overload condition if the amount exceeds the maximum threshold and clearing the overload condition if the amount is below the maximum threshold (see abstract); comprising:

◊ establishing a hose (130A) for each of a plurality of endpoints (110 K, 110J) of a virtual private networks (see figure 2, col. 2, lines 18-30);

◊ coupling the hose (130 A) to endpoint (110 K, 110J) associated with other hoses (130 A, 130 B, 130 C, 130 D, 130 E, 130 F) via the routing paths in a network (see figure 2, col. 3, lines 48-67);

◊ allocating network resources (bandwidth allocation) to support communications between the hose and the other hose (see figure 2, col. 2, lines 13-30).

3. In the claim 2, Ma et al. discloses a service level agreement (service contract agreement, quality of service) for the hose, the service level agreement including a hose profile and other information for controlling and managing the hose (see col. 3, lines 45-67).

4. In the claim 21, Ma et al. discloses precesses of monitoring a utilization level of a grouping of a virtual path on a physical interface comprises checking the utilization level of the virtual path, updating an amount of available bandwidth for the virtual path, and comparing the amount of available bandwidth with a maximum threshold for the available bandwidth and setting an overload condition if the amount exceeds the maximum threshold and clearing the overload condition if the amount is below the maximum threshold (see abstract); comprising:

◊ a plurality of endpoints (110 K, 110J, 110 A, 110 B) , each of endpoints having a hose (130A, 130B) (see figure 2, col. 3, lines 48-67);

◊ a plurality of routing paths in the network, the routing paths coupling the hose to endpoints (110K, 110J, 110A, 110B) associated with other hoses (see figure 2, col. 3, lines 48-67);

◊ virtual private network service provider (145); the virtual private network service provider allocating network resources to support communications between the hose and the other hoses (see figure 2, col. 3, lines 48-67).

5. In the claim 22, Ma et al. discloses the virtual private network service provider receives a service level agreement for the hose, the service level agreement including a hose profile and other information for controlling and managing the hose (see figure 2, col. 3, lines 48-67).

6. Claims 3-20, 23-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (U.S.Patent No. 5,953,338) in view of Mitra et al. (U.S.Patent No.6,331,986 B1).

In the claims 3, 23, Ma et al. discloses selecting one of a user managed hose type or a virtual private network service provider managed hose type for the hose (see figure 2, col.3, lines 48-67); results of the first and second selecting steps being stored in the hose profile (see col. 3, lines 48-67).

However, Ma et al. does not discloses to transmit marked data packets to the hose.

Mitra et al. discloses optimal routing and optimal bandwidth allocation in network that supports plural subnetworks and plural communication services; the determinations of traffic rate to be offered, and the allocations of bandwidth to respective links of subnetwork (see abstract); comprising:

◊ whether to transmit marked data packets to the hose (see col. 10, lines 15-17).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Ma's system with the teaching of Mitra to transmit marked data packets to the hose in order to process the data packets (type of information) corresponding to the QOS (quality of services).

7. In the claims 4, 24, Ma et al. discloses specify one or more aggregate bandwidths for the hose (see col. 3, lines 48-67); specifying a time schedule for each of the aggregate bandwidth, the aggregate bandwidth and the time schedule being stored in the hose profile (see col. 13, lines 1-5).

8. In the claims 5, 25, Mitra et al. discloses receiving information regarding data packet marking and a quality of service corresponding to each of the data packet marking; and initializing the allocated network resources to provide the quality of service based on the data packet marking if condition in the hose profile is not violated (see col. 10, lines 15-17, col. 13, lines 30-35).

9. In the claims 6, 26, Ma et al. discloses receiving one or more quality of service levels for the hose; establishing oner or more sub-virtual private networks, each sub-virtual network corresponding to one of the quality of service levels; specifying one or more bandwidths for the hose corresponding to each of the sub-virtual private networks; and specifying one or more time schedules for the bandwidths, the bandwidths and the time schedules being stored in the hose profile (see figure 2, col. 3, lines 48-67).

10. In the claims 7, 27, Mitra et al. discloses receiving information regarding data packet marking and a quality of service corresponding to each of the data packet markings; and initilizing the allocated network resources to provide the quality of service based one the data packets marking if conditions in the hose profile is not violated (see col. 10, lines 15-17, col. 13, lines 30-35).

11. In the claims 8, 28, Mitra et al. discloses measuring communication traffic of allocated network resources to generate monitoring data; generating a resizing condition based on the monitoring data; and resizing the allocated network resources if the resizing condition is within one or more threshold of the hose profile (see col. 20, lines 55-67).

12. In the claims 9, 10, 29, 30, Mitra et al discloses the monitored data includes historical data, generating trend data to predict virtual private network usage (see col. 20, lines 55-67).

13. In the claims 11, 31, Ma et al. discloses reducing the allocated network resources if the resizing condition is below the lower bound threshold; and incresing the allocated network resources if the resizing condition is above the upper bound threshold (see col. 8, lines 35-37).

14. In the claims 12, 32, Ma et al. discloses if the resizing condition is below the lower bound threshold by a predetermined amount, renegotiating the hose profile to change the service level agreement to be more consistent with the monitored data (see col. 7, lines 45-50).

15. In the claims 13, 33, Ma et al. discloses if the resizing condition is above limits set by the hose threshold, renegotiating the hose profile to change the service level agreement to be more consistent with the monitored data (see col. 7, lines 45-50).

16. In the claims 14, 34, Ma et al. discloses the resizing condition determined based on a prediction of future virtual private network usage (ses col. 8, lines 35-37).

17. In the claims 15, 35, Mitra et al. discloses the routing paths is determined based on one or more of : network connectivity; a hose identification; and virtual private network identification (see col. 13, lines 1-67, col.20, lines 55-67).

18. In the claims 16, 36, Mitra et al. discloses the routing paths based on a shorted distance between pairs of endpoints of the virtual private networks to form a pe between the pairs of the endpoints (see col. 13, lines 1-67, col. 20, lines 55-67).

19. In the claims 17, 18, 37, 38, Mitra et al. discloses selecting the routing paths based on a source tree or a sink tree for each of the endpoints; and minimizing a bandwidth allocation between nodes of the network by maximizing sharing of same paths for branches of the sources or the sink tree extending between different ones of the endpoints (see col. 13, lines 1-67, col. 20, lines 55-67).

20. In the claims 19, 39, Mitra et al. discloses selecting the routing paths based on source trees or sink trees corresponding to all endpoints of one or more virtual private networks; and minimizing a bandwidth allocation between nodes of the network by maximizing sharing of same paths for branches of the sources or the sink trees extending between different ones of the endpoints for all the virtual private networks (see col. 13, lines 1-67, col. 20, lines 55-67).

21. In the claim 20, Mitra et al. discloses the network is an Internet Protocol Network (see col. 10, lines 24).

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Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong Ho whose telephone number is (703)306-4529. The examiner can normally be reached on Monday-Friday from 9am to 3pm.

23. If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington, Chin, can be reached on (703)305-4633.

Any inquiry of a general nature or relating to the status of this application or proceeding should be direct to the group receptionist whose telephone number is (703) 305-3900.

CH

Date 09-08-02

WELLINGTON CHIN
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